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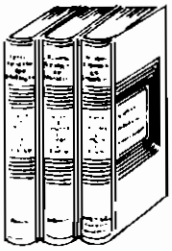
BOOK REVIEWS



A book reviewer occupies a position of special responsibility and trust. He is to summarize, set in context, describe strengths, and point out weaknesses. As a surrogate for us all, he assumes a heavy obligation which it is his duty to discharge with reason and consitency.

Admiral H.G. Rickover

"The Holy Grail of Command and Control"

Captain Wayne Hughes, Jr., U.S. Navy (Retired)

Allard, C. Kenneth. *Command, Control, and the Common Defense.* New Haven, Conn.: Yale Univ. Press, 1990. 317 pp. $25

This book's title tells us that it deals with big issues. However, since command and control *affect* (but are not themselves) literally everything in military operations, it is important to know which aspects C. Kenneth Allard is discussing. His primary interest is in the policies and politics of top level organization. His title, the *Common* defense, accurately implies his penchant for a more centralized command authority. The dust jacket also indicates this as the issue the publisher regards as the most important.

In the middle of the book is one short section on the elemental concepts of C^2. For perspective the reader will want to know that these are largely illustrated by the views of Colonel John Boyd, Dr. Jay Lawson, and General Paul Gorman. But one must infer Allard's own views regarding the functions of command, and the command and control processes that carry out these functions.

Allard also argues for more and better hardware, and he takes for granted that unlimited connectivity is a good thing: "The great potential of distributed data systems like JTIDS is that they can bring a democratic influence to the flow of battlefield information. . . . The Stinger gunner and the F-15 pilot linked by

Captain Hughes is professor operations research at the Naval Postgraduate School, Monterey, California. He is also author of *Fleet Tactics, Theory, and Pratice.*

JTIDS may have no closer relationship to each other than two researchers browsing through the same stack at a university library; both pairs, however, are effectively using nonhierarchical information regimes that reconcile their individual needs within an overall cooperative framework."

As he continues, Allard exhibits much of his own slant: "The drawback, of course, is that such information sharing can be utterly subversive of the notions of military hierarchy, which, for all practical purposes, considers command and information lines to be identical. In the end, it may well be that the command and information lines may diverge, especially if, God forbid, the reality of the army's Airland Battle ever matches the decentralized combat model called for in its doctrine." The author leads one to sense a change in direction. One must accept that centralization of command and decentralization of control are smoothly compatible, and that these organizational concepts will eliminate *errors*.

By the end of page one Allard has linked the Iranian rescue failure, the Lebanon marine barracks tragedy, and the communications hardware limitations of the Grenada operation with the desirability of the Goldwater-Nichols Act. Ignore the facts that the Iranian rescue mission was planned and executed out of the JCS and that the failure in Lebanon had little or nothing to do with organization, technology or doctrine.(A friend who was in a position to see the contemporaneous machinations of senior Pentagon staff officers, congressmen, and journalists said to me, "Whaddayamean, the National Command Authority? The NCA is not one mind inside a box at the top of the organization chart; it is a hydra-headed monster.") As to the Grenada operation, Allard all but labels its success as a throwaway. His main point is that communications were imperfect and that the imperfections added energy to the momentum for greater unification.

Two things are clear. The author favors a united effort at the top to achieve greater centralization and a greater information flow through technology that will eliminate or reduce error. Allard is, well, too persuaded by his own rhetoric. Organization and technology help, but they are not solutions. War is a mess. Insofar as command and control are concerned, sound organization and several billions better-spent on C^2 technology taken together are no more than a Seven Percent Solution in creating error-free combat operations. I am reminded of Dorothy L. Sayers, the Oxford scholar and mystery writer. Somewhere she wrote that people like mystery stories because they are about crimes that have solutions. "But," she said, "life's not like that." In response to most of the world's problems we do things, change things, sometimes improve things. But the things we do usually do not eliminate a problem once and for all like a detective who solves a crime. We should all remember that, when we seek the Holy Grail of command and control.

The navy reader especially may be put off by Allard's organizational views in favor of centralization. Early on the author makes much of individual service

personalities and styles, using ideas that were fashioned by Carl Builder and the journalist Arthur T. Hadley. A lieutenant colonel in the army, Allard now serves in the Chief of Staff's office, and he expresses the army's longstanding cultural faith in service unification. Personally I think there are enough cultural differences between the infantry, artillery, and armor to wash away the myth that organizational unity breeds a single society. If one wants a unified service, I offer him the Department of the Navy, which already has its own ground, air, sea, and undersea forces able to carry out every kind of military operation. Within that unity, marines are culturally as different from sailors as they are from soldiers. I would even be so bold as to believe that their cultural differences are not only inevitable but desirable.

I should be more specific about Allard's faith in jointness and centralized decision making. He refers to the story of the notorious TFX, Secretary McNamara's fighter aircraft that was to be shared by the air force and the navy as an example of an aborted attempt to unify the development of defense hardware with a single effort. For this case history he relies on an exemplary source, *Illusions of Choice* by Robert F. Coulam. Allard's account is solid, but goes astray at the end. He says that the development of the air force variant, the F-114A, "went well." In truth, the air force bought only a handful of these fighter-bombers. Worse, Allard attributes the fact that the navy used delay tactics to evade the purchase of the F-111B in favor of the F-14 Tomcat which "altered the airframe, degraded its handling performance, and also added weight to the point that the plane would not be suitable for carrier use." True enough, but naval aviators were not filibustering the TFX as much as they were trying to make a silk purse out of a sow's ear. Coulam, it seems to me, makes this quite evident. In any event, after twenty years in which to compare the F-111A with the highly popular and successful Tomcat, there ought to be no question that naval aviators acted as they did for reasons that are vindicated by the results.

But these and better arguments for and against unified command have long been debated. More to the point, Allard commenced his research in 1984, and, under a Congressional Fellowship awarded by the American Political Science Association in 1986, he participated on Capitol Hill in the events that culminated in the Goldwater-Nichols Act. The organizational arguments that he advances strike me as those that were appropriate *before* the new law and its phenomenal effects. Unless he is arguing for further massive centralization, much of the book is now out of date. "How are we doin' now?" would have been a more pertinent approach.

In sharp contrast, Allard's detailed history of JTIDS is a sympathetic account of the difficult and tortured development of a very complicated and ambitious program. Because of its many stages and variants, JTIDS, like the NCA, might also be called a "hydra-headed monster"—but this beast is technological, intended to distribute a panoply of information. JTIDS is a communications

system, if communications is defined with sufficient breadth; it is a C^3 system; if C^3 is defined in that useful and increasingly common way, "communications *for* command and control." Allard describes the evolving skills, attitudes, and genuine military and economic interests of the air force, navy, army and marine corps (some united and some badly disjointed); and of the secretaries and deputy secretaries of defense (with emphasis on two technically skillful and devoted assistant secretaries of defense for command, control, communications and intelligence—Dr. Gerald Dineen and Donald Latham of the Office of the Joint Chiefs of Staff); and of key congressmen and staffers, who for once were patient and supportive. Allard's wise and thorough discussion extends for fifty-one pages—the tale is impossible to compress further—and is worth the price of the book. A cynic could use JTIDS as another horrible example of "interservice rivalry," but there is none of that in Allard's narration.

In addition one finds two solid reviews of navy and army-air force [!] tactical communications. Particularly instructive is the *intra*service army debate over Air-Land Battle and its associated doctrine and technology. The army debate illustrates two things: first, that rivalry within a service can be just as vigorous, and in this reviewer's eyes, just as vital to combat effectiveness, as any that goes on across services. Second, it illustrates the difficulty of deciding what does and does not come under the umbrella of "command and control," for Air-Land Battle is not so much a debate over C^2 as it is over the conduct of modern war on the land and above it.

Naval officers should read *Command, Control, and the Common Defense.* Writing as someone sympathetic with the Goldwater-Nichols Act's objectives, I offer it as a way—usually a painful way—to illustrate how the navy often walks its own path. Our paranoia may be justified by opinions like Allard's, but there is no gainsaying that the boundary between land and sea must not be a boundary between service domains, because the reach of sensors and weapons of war has become too far and too deep. It is a commonplace of war to guard against enemy attacks in the seams of your command authority. One of the great seams has always lain along a coastline.

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Seabury, Paul and Angelo Codevilla. *War: Ends and Means.* New York: Basic Books, Inc., 1989. 306pp. $19.95

This book proved to be a surprise. It was not written for military and defense professionals, although many of them will find it of special interest. The intended audience for the book is the generation of Americans who have been "trained to live as if military matters were a spectator sport, whose popular culture gives the impression that violence belongs exclusively to the past or to lower forms of life, and whose university curricula make it well-nigh impossible to put one's self in the shoes of history's protagonists—

or of those caught in the middle." As such, one might expect it to be a simplistic and sophomoric piece of work; instead, it is a stimulating book of unexpected scope, covering how wars start, how they are fought, and how they end.

The authors are distinguished political scientists, and both have intelligence experience. They demolish many currently fashionable illusions about war. Their book is the kind that one wishes could be forced into the psyches of every American political leader, policy maker, academic, and social commentator. If that could be done, one would expect the quality of decisions that impact America's future to be improved dramatically.

The text is filled with an abundance of judicious and enlightening historical and contemporary examples that reveal much about the nature of war, some of which, as Americans, we must consider highly embarrassing because they point up our dumb decisions so clearly. The book begins with the meaning of war (later treating the concept of a "just war") and of "peace." It addresses the causes and justifications put forth for past wars. It explores the political and material conditions (weather, terrain, logistics, technology, etc.) of battle, and how the fog of war affects battle. Requirements to win on land, at sea, and in the air (including space) are discussed with the panache of a Clausewitz or Machiavelli: also covered are military operations in the nuclear age. The often neglected topics of political warfare in both large and small wars, and intelligence operations and special operations as well, also receive attention. The authors conclude with considering what outcomes are desirable after a war and how they might be achieved.

For most military specialists, much of the material in this book will be familiar. However, there are a number of interesting and not so well known historical tidbits. In addition, this is the kind of book one wants to know personally so that it can be recommended to friends, students, and others who don't seem to comprehend how important the study of war is for real and lasting peace.

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Gray, Colin G. and Roger M. Barnett, eds. *Seapower and Strategy*. Annapolis, Md.: Naval Institute Press, 1989. 383pp.

This is the book I was looking for throughout my year as a student at the Naval War College, and have been ever since. What Colin Gray and Roger Barnett have done is combine history and strategy into a cohesive whole—so that, for once, the past really is prologue, the present is understandable, and the future has some direction. They do not do it alone, which makes the book even better.

The work is built around ten themes that are worth summarizing here.

- The natural condition of the land is to be politically controlled.

• The natural condition of the sea is to be uncontrolled.

• States seek to control the seas in order to affect what is happening on the land.

• The principles of war, the lessons of strategy, and the manner of combat as these have been developed in the context of land warfare should not be carried over uncritically into maritime strategy or warfare.

• The offensive is the stronger form of combat at sea.

• Land power must contend with more "friction" than must sea power.

• Sea powers and land powers throughout history often have had great difficulty in reaching the enemy's center of strategic gravity to force a favorable decision.

• Sea powers and land powers place strategic confidence in their respective traditional military instrument of excellence.

• Over the course of history many countries have maintained large armies, but those that have built and provided for large navies number ten or fewer.

• The United States is a highly unusual case of a continental-size and, effectively, strategically insular, sea power.

The book, after a statement and discussion of these themes in the Introduction, is, like all of Gaul, divided into three parts. Part I is aptly called "The Basics," and contains three chapters. (All chapters are individual essays.) In the first, Colin Gray lays out the fundamental differences between sea powers and land powers, the difficulties they have engaging each other decisively, and some solutions to these difficulties. John Gooch revisits the concepts of sea power from the perspectives of Mahan and Corbett in Chapter 2. He seems to prefer Corbett (could they both be English?). The third essay is a brilliant piece by Wayne Hughes on the impact of technology and tactics on strategy, both historically and currently. This may seem to some out of place alongside with the other two, but it is worth remembering that the capability to win battles is fundamental to a successful strategy. With these three chapters the stage is set for a walk through the past.

Part II consists of seven essays addressing maritime warfare from the Peloponnesian War through World War II. Barry Strauss covers Athens and Sparta, Al Bernstein looks at maritime strategy in the Punic Wars, Alberto Coll discusses the wars between England and Spain at the end of the sixteenth century, Robin Ranger covers the protracted series of Anglo-French wars from the late seventeenth through the early nineteenth centuries, Williamson Murray examines naval power in World War I, and, in the last two chapters Jeffrey Barlow deals with the Atlantic and Pacific campaigns of World War II. I found Part II the best individual section of the book. The essays appear to have been written specifically for the context of this book. Each provides a historical survey of its respective war and a strategic analysis as well. It is from these

strategic analyses that the ten themes of the book seem to be drawn.

Part III carries forward from the end of World War II to the present. Colin Gray kicks off by discussing the role sea power plays today in the defense of the Western alliance. In the following chapter Roger Barnett contrasts this with Soviet maritime strategy. Barnett with Jeffrey Barlow, provides readings of declassified and unclassified U.S. Navy documents addressing naval strategy from the end of WW II to the present. It is a wonderful chapter that illustrates both the continuity and the durability of U.S. naval thinking over those four decades. In Chapter 14 Barnett attempts to treat the dichotomy of maritime and continental strategies as a matter of emphasis, i.e., as complementary not competitive matters. In the last chapter Gray and Barnett combine to summarize themes and offer some pointers for the future.

This book is the most thorough and well-balanced discussion recently published of the complex issues surrounding the relationship of sea power and strategy. Thankfully it makes no attempt at force-building or sizing naval forces. It is about the utility and nonutility to a nation of effective naval forces, whatever the composition of those forces might be. This book is for the serious reader, but not solely for the professional strategist; there is much for the general public to make use of as well. Indeed Part I, "The Basics," makes an excellent primer for the novice, while the "Contemporary Maritime Strategy" discussions of Part III will challenge the national security specialist. "Strategy and History" in Part II keeps everybody honest.

The Maritime Strategy of the U.S. Navy (or, as some call it the Maritime Component of the U.S. National Strategy) that emerged in the 1980s has a thousand fathers, but Roger Barnett is one of the few with a legitimate claim to that relationship. Both he and Colin Gray have been in the forefront of the defense of that strategy for some time. This book is clearly the capstone of that defense. But it is much more, because it is not so much about *the* Maritime Strategy as it is about maritime strategy. Therefore, it belongs on the desk of every war college student and every fleet planner, and in every Washington office with responsibility for national security affairs. I would wager that Admiral Chernavin has already read it.

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Cable, James. *Navies in Violent Peace.* New York: St. Martin's Press, 1989. 155pp. $45

Navies in Violent Peace is a summary and update of Sir James Cable's many writings on naval diplomacy. With five books and numerous articles on the topic, Cable is the most prolific and perhaps the most insightful authority on the role of navies in peacetime. To a great extent, this new volume represents the collection of his wisdom, and is therefore both an excellent

introduction to and fast-paced survey of naval missions infrequently addressed: gunboat diplomacy, showing the flag, "estate management at sea," and suppression of pirates and terrorists. Not simply justifying the maintenance of navies in peacetime, the author attempts to place these missions in a context of the use of navies in limited and general war. The general conclusion, if the book can be said to have one, is the acknowledgement of a paradox: although built for war, navies are used more frequently as diplomatic instruments in peace. By definition, the outbreak of an actual war represents a failure of the peacetime diplomatic-deterrent mission.

Even for readers familiar with the topic, Cable's book is particularly refreshing because of its non-American perspective. The author is more than willing to question the premises of the Maritime Strategy—but on a historical rather than ideological basis. His concern is that a maritime campaign can never be kept limited or non-nuclear because of the fact that naval vessels, unlike land forces, are symbols of national sovereignty. If one accepts the premise that "nuclear war at sea offers overwhelming advantages to the Soviets," the Maritime Strategy may appear to have less of a deterrent effect than presumed. Caution is advised before nations gamble their maritime power on a single role of the "iron dice." Navies are worth more, the author suggests, as political or diplomatic tools than as actual weapons, and risk to them should be weighed carefully. Cable's arguments are not quite an apology for Admiral Jellicoe's choice at the Battle of Jutland, but one sees the shadow of the "risk theory" in them.

But his real concern is that governments do not realize the full impact of navies on peacetime diplomacy and may therefore be willing to sacrifice maritime capabilities on the altar of budget cuts. His unspoken target is the British parliament, and his favorite example of the advantages of a navy that has out-of-area capability is recovery of the Falklands by the Royal Navy and Royal Marines. With such arguments it would appear that he opposes such cuts. However, his language—in that typical British fashion—is understated: Cable admits that "countries only concerned to defend their own coasts against seaborne attack might prefer to sacrifice a small navy to strengthen their air force or even, as some countries already do, to let their sailors man coastal artillery or otherwise stand guard ashore." His conclusion is that, in truth, with the exception of the superpowers only Britain and France possess ocean-going navies. With this in mind, Cable hints at the implications of the difference between British and French deployments, quoting Rear Admiral J.R. Hill, RN: "The French pattern . . . has been to maintain rather low-capability forces permanently in such areas as Djibouti and the southern Indian Ocean, while the British have deployed balanced forces of several

powerful warships about once a year on peripatetic tours." Which style of deployment is more effective is a question that should have been developed more fully.

While certainly worthy of its audience, there are certain flaws in this book that are probably more apparent to its American than its British readers. These flaws are the result of the author's reliance on *The Times* (of London) as his primary and often sole source for details of current operations, whereby journalistic exaggerations are used to buttress his theoretical arguments. For example, discussion of the costs of long deployments and limits upon naval reach elicits the comment that "in 1980 the nuclear-powered carrier *Nimitz* managed 100 days at sea in the Indian Ocean, but discipline suffered among her crew." This reviewer "managed" around 120 days in the *Ranger* in the following years but saw no such extraordinary discipline problems. Of course, Cable's favorite source for American naval theory is the U.S. Naval Institute *Proceedings*, "in spite of some stylistic eccentricities . . . a journal of the highest standards." Who are we to disagree?

A particularly strong area of the book is a discussion on piracy and terrorism at sea; Cable concludes that the maritime nations are not doing enough to suppress piracy in Southeast Asia. In contrast, the U.S. Navy's capture of the terrorists of the *Achille Lauro* is portrayed as a successful employment of naval force in a situation with considerable potential for political conflict. The final chapter, on naval arms control is the weakest, but perhaps this simply reflects the ambiguity of the topic. As Cable points out, treaties affecting navies can always be interpreted vaguely. The Soviets now openly refer to the *Kiev* as an "aircraft-carrying cruiser," yet it passes through the Montreux Convention-controlled Dardanelles without Turkish protest. So much for treaty restrictions on warships.

Since *Navies in Violent Peace* is the latest and best *brief* treatment of the peacetime role of navies, it should be sought out and read. Unfortunately, it is expensive for only 155 pages. However, the book's brevity and its need for more detailed American source material should only encourage the author—and perhaps some among its readers—to attempt a more definitive version.

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Hattendorf, John B. and Robert S. Jordan. *Maritime Strategy and the Balance of Power: Britain and America in the Twentieth Century*. New York: St. Martin's Press, 1989. 373pp. $55

There is more to the dust jacket of this book than meets the eye. Bernard F. Gribble's fine oil painting "The Arrival of the American Fleet at Scapa Flow, 7 December 1917, being Greeted by Admiral Beatty and the Crew of HMS *Queen Elizabeth*"

symbolizes the great links that Britain and the United States have enjoyed, and continue to enjoy, as sea powers. After years of hostility, and two wars (the Revolutionary War and the War of 1812), these great sea powers on either side of the Atlantic have held together the balance of power against continental world power aspirants. Taken together, their naval histories have much in common as do their maritime strategies, which in these years of Nato have become one. The purpose of this collection of essays is to examine the similarity in the Anglo-American perspectives of great-power maritime strategy and of the role of navies in maintaining a balance of power.

To a large degree the purpose of this book has been fulfilled. The work contains some truly brilliant contributions from the brightest and the best who concern themselves with such things. The first chapter belongs, appropriately, to the late Norman Gibbs and is a reissue of his classic "Origins of Imperial Defence," an account of the organization of defence planning by imperial Britain to 1914. John Gooch and Robert S. Jordan follow, with studies of how Britain organized for war and for peacekeeping. Taken together, these three chapters form a minihistory of British planning for security on and over the seas. Robert S. Jordan, in his preliminary statement of the book's purpose, questions whether Britain and the United States could ever have complementary maritime strategies: "In truth," he writes, "there never has been room enough in the world for coexisting British and American empires, a simple balance of power relationship and so, although logically there should have been intermittent warfare between the two English-speaking maritime Powers, no war has occurred since 1812." This is a curious way of explaining the complementary interests of the two powers in the nineteenth and twentieth centuries: it is a maxim of world history that the Royal Navy allowed the Monroe Doctrine to be as successful as it was in Latin America in the nineteenth century; in addition, as statesmen in London and Washington knew, the business of the two powers was peace for the purpose of profit. The peaceful settlements of the Oregon, Texas, San Juan, and Alaska boundary disputes are examples enough of this.

The fact of the matter is that the two powers had more in common with one another than has been admitted by their diplomatic historians, and even by their maritime strategists. But Captain Mahan knew this, and thus the collection of chapters on maritime theory in the twentieth century (on Mahan, Corbett and more recent thinkers including Wylie, Rosinski, and Eccles) shows the similarities of the two countries in their basic theoretical understanding of the broad uses of sea power. Here our best thinkers on these matters—Barry Hunt, Donald Schurman, and John Hattendorf—cover the waterfront; Hattendorf's more recent perspective is significant in that it lays down some operating principles for

sea powers in times of war *and* in times of peace, the latter almost always forgotten in the rhetoric of statecraft, or dismissed in a simple line.

The third part of this book addresses the topic of "Anglo-American Rivalries and Coalitions." It contains useful essays (all of them starting points for more extended treatment, I should think) by Paul Kennedy, Kenneth McDonald, Malcolm Murfett, and Marc Milner. This is the core of the book, not because it is comprehensive (for it is not) but because it suggests the larger theme that our editors had in mind. Britain and the United States had interests in the security of the seas in common; strangely enough old national rivalries frequently stood in the way of their cooperation, an age-old and ongoing story that has lessons for the future. The last section is entitled "Planning for a Future War in the Nuclear Age." It contains essays by Eric Grove and Geoffrey Till on Anglo-American strategy in the era of massive retaliation (to 1960) and by Joel Sokolsky on the same for the era of flexible response (since 1960), on fleet renewal and maritime strategy in the 1980s by Robert Wood, and a concluding summary by Hattendorf and Jordan which says it all: "It is still a wise admonition to choose one's allies wisely and to conserve one's enemies carefully."

This book was well worth doing, and is a credit to its editors and the publisher. It will long be the source that strategists and naval theorists refer to for collective wisdom on the themes of maritime strategy and, to a lesser degree, alliance politics. In future, whether in times of war or peace, students of international affairs would do well to remember that seemingly contending rivals have a lot more in common than meets the eye, and that partners in maritime preeminence can hold together the Trident of Neptune.

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McLaurin, Ronald D. and Chung-in Moon. *The United States and the Defense of the Pacific.* Boulder, Colorado: Westview Press, 1989. 353pp. $45

This is a systematic and generally positive politico-military analysis of the security posture of the United States in the Pacific basin. Starting from the premise that the U.S. has been a Pacific power for more than two hundred years, it advances a careful argument that the present U.S. employment of significant political, economic and military resources to defend the present Pacific order is both necessary and appropriate. Although the authors recognize that the massive American investment in Pacific security has allowed Pacific states to focus their resources on other issues, they maintain that the security of the Pacific is no longer dependent upon U.S. actions alone. Regional security must be and is dependent upon the full participation of all

Pacific nations that have a vested interest in the current order.

The focus of the book is on the military element of the U.S. role in the security of the Pacific region, but it does not attempt an analysis in onerous detail. It provides, rather, a coherent broad-brush view that is often lacking in more detailed analytical works. To explain U.S. strategic decisions, the authors carefully review U.S. national interests and defense posture in the Pacific, focusing on the capabilities, intentions, and will of the Soviet Union, North Korea, and Vietnam as the major threats to regional stability. From this foundation they then provide an overview of U.S. strategic thought as a basis for subsequent discussion of the structure and deployment patterns of U.S. military forces. To their credit, the authors avoid the temptation to dwell on the details of weapons systems or extensively enumerated orders of battle. In successive chapters on the navy, air force, and army components of the U.S. Pacific Command, the authors focus on major organizational elements of these forces, emphasizing missions, readiness, sustainability, and modernization.

The review of the foundations and facts of the current U.S. defense posture in the Pacific is interesting, but the real strength of the book lies in its chapters which analyze the security relationship of the U.S. to the individual nations of the Pacific. Because the U.S. defense concept for the Pacific requires forward deployment of American forces in and around the countries along the Asian rim, the authors assert that the security relationships the U.S. maintains with each of these countries is a crucial component of U.S. defense. Though they acknowledge that these relationships contain significant components in addition to security issues, the authors analyze the strengths and weaknesses of security cooperation as a benchmark of the overall connection. Calling attention to the critical nature of the security ties to the U.S., the authors repeatedly make the point that for all its strength and wealth the U.S. is not a solitary actor in Pacific defense matters. Directing attention to areas of agreement and disagreement on a broad range of security issues including policy coordination, U.S. military activity in country, intelligence cooperation, security assistance, attitudes toward nuclear issues, and potential threats, the authors make the subtle point that U.S. defense is in fact dependent upon the nations of the Pacific rim.

This is a book that should be read carefully by anyone seriously interested in U.S. defense matters. It operates on two distinct levels—as an excellent primer on U.S. defense capabilities issues in the Pacific, and as a careful reminder of the importance of international relations to the security of the United States. By highlighting the range of difficulties the U.S. faces in maintaining effective security relationships with the nations of the Pacific basin, the authors make an important point. American leadership in regional defense matters requires

comprehension, direction, confidence, and constancy. Unfortunately, the U.S. has not always displayed these qualities in its dealings with its Pacific neighbors.

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Tarrant, V.E. *The U-Boat Offensive 1914-1945.* Annapolis, Md.: Naval Institute Press, 1989. 190pp.

Ministry of Defence (Navy). *The U-Boat War in the Atlantic, 1939-1945.* London: Her Majesty's Stationery Office, 1989. 396pp. $49.95

John Keegan once observed that the vast amount of raw data in logs, signals, orders, charts, and the like burden naval history with such a density and volume of facts that the prospect of writing it might "crush the spirit and blind the imagination of all but the most inspired and dedicated scholar." Compared to the more visceral problems confronting those who wrestle with land battles, modern naval "battle" history does present unique challenges. One of them is that the historiographical concept of naval battle has been extended in this century to include episodes that were, in essence, protracted campaigns of attrition waged by submarines against shipping. Far more than the distinct and discrete "battle piece"—like Jutland or Midway—throughout that Keegan had in mind, these campaigns were shaped and driven by hard data: such as loss and tonnage rates, wastage rates of new construction, volumes of cargoes delivered, and serviceability and strength returns. The submarine campaigns of this century were battles writ large, with all the detail of particular actions overburdened by the mountains of data compiled by shore staffs.

That essential truth is amply demonstrated in these two excellent books. However, they do more than simply recount the relentlessly accumulated data in plus and minus columns. They fill large gaps in the English language literature on the U-Boat campaigns. Tarrant's *The U-Boat Offensive 1914-1945* covers the whole sweep of two world wars and provides a remarkably concise yet thorough account of the German U-boat campaigns in both. His discussion of operations is set in a solid strategic context and within the broader context of the evolution of naval warfare itself. His account of the wedding of time-honoured blockade strategy with the new possibilities—and limitations—of submarines in the First World War is tightly focused and marvelously balanced. The same can be said of his handling of World War II in which the complex pressures of strategy, the intelligence war, and the contest between Allied tonnage losses and new construction are clearly set forth, he displays a fine sense for the limits of Dönitz's fleet and for the imperatives of the war of attrition. *The U-Boat Offensive* also provides enough technical detail on U-boat development to carry the story.

Tarrant's text is itself a major contribution to the field, but it is also particularly useful for the enormous volume of essential data that it provides on aspects of the U-boat war. U-boat losses are recorded in detail at the end of each chapter; merchant shipping losses (in various arrangements), new U-boat construction, monthly U-boat strength returns, U-boat specifications, and other tables are provided in appendices. Much of this information is already available in British official and naval staff histories and in out-of-print monographs, and the text is based largely on Admiralty in-house publications available at the Public Records Office in Kew. But it would be impudent to suggest that Tarrant has simply repackaged a familiar tale. Rather, he has produced for the first time a truly comprehensive and scholarly account of the German U-boat arm in the world wars. The worst that can be said is that his standard of documentation is less than the scholarly norm.

The U-Boat Offensive will serve as an essential reference on the U-boat campaigns. However, its significance is surpassed by that of the publication of *The U-Boat War in the Atlantic 1939-1945*, one of the confidential Admiralty in-house sources upon which Tarrant and many others before him have drawn. Long revered by specialists in the field as the Grail for U-boat operations in the Second World War, *The U-Boat War* was compiled after the war under British and American direction by Fregattenkapitän Gunter Hessler, Staff Officer (Operations) to BdU from 1941 onwards and Admiral Dönitz's son-in-law. Among Hessler's able research assistants was a young German naval officer named Jürgen Rohwer, now the foremost authority on the Battle of the Atlantic. Hessler's credentials for writing this account were impeccable and so too were his sources, which included the surviving U-boat logs, the War Diary of BdU, and other captured German records.

Her Majesty's Stationery Office has published a facsimile edition of the original three-volume "BR 305." Its 400-plus pages of text cover deployments, operations, analysis of U-boat activities, equipment, tactical developments, and evaluations of the significance of Allied countermeasures. The comings and goings of individual submarines and "wolfpacks" are described in detail, as are contemporary German assessments of convoy battles. The text is buttressed periodically with maps, diagrams, and charts illustrating strategic and tactical deployments and concepts, and with no less than thirty-two diagrams, published in a separate wallet, from the original BR 305. The diagrams contain a goldmine of data: flow charts of pack composition, strength returns, tonnages sunk, deployments by theatre, and the like. To this facsimile edition the reviser has appended brief notes correcting errors and explaining incidents in the text along with reflections on the latest intelligence revelations, and a brief index.

It is difficult not to indulge superlatives when assessing the importance of Hessler's work and its publication for wide distribution. Nothing like it has ever been available; *The U-Boat War* is without a doubt the most important book ever published on the Battle of the Atlantic.

Amid the welter of books which clutter the field of twentieth century naval history, Hessler's and Tarrant's stand out as essential additions to modern naval libraries. They also demonstrate that naval historians have been neither crushed or blinded by the challenges of their field.

MARC MILNER
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Terraine, John. *The U-Boat Wars: 1916-1945*. New York: G.P. Putnam's Sons, 1989. 841pp. $42.95

The U-boat campaigns of the First and Second World Wars were as crucial to the Allied victories as any campaign or battle in either war. The battles were fought by young men new to the sea. They fought in small, harsh vessels—corvettes, frigates, and destroyers. Battles were frequent and ugly. Most happened far from the land. Neither panache nor dash prevailed. Tenacity and technology, subtlety, and elemental heroism carried the day. Victory was perceived sooner by the statistician than by the commander.

John Terraine, a noted British military historian, has given us a long and complex history of the U-boat wars. He has conveyed, with a historian's eye for insightful detail and quotation, all the interlocking threads of the campaigns. His special ability is to help the reader appreciate the subtle integrations of tactics, operations, and technologies in those brutal but historic campaigns.

Terraine's coverage of the U-boat actions of the First World War and of developments in the interwar period is important: he shows that the roots of the tactics and weapons of the Second World War were established in those years. Nevertheless, Terraine's descriptive and analytical writing rivets the reader's attention most firmly to the grueling Battle of the North Atlantic from 1939 to 1945.

The convoy arguments—to sail in escorted convoy or to sail alone, hoping to avoid detection—have been discussed by other writers. But Terraine masters this question and its tactical complexities by making the mathematics and its implications obvious. (Readers who want more development of the mathematics are advised to consult P.M.S. Blackett's work in operational analysis.) Terraine observes that the size of a convoy upon the vastness of the sea was so slight that it was not any more likely to suffer detection than was a single ship. Churchill put it: "There was in fact very nearly as good a chance of a convoy of forty ships in close order slipping unperceived between the patrolling U-boats as there was for a single ship; and each time this happened, forty ships escaped instead of

one." Indeed, ninety percent of the convoys sailed unmolested.

Even so, as Nelson never had enough frigates, so the Allies never had enough escort vessels. The ones they did have were nobly sailed and valiantly fought; Flower-class corvettes wrote a large chapter in British and Canadian naval history. They were what Kipling called that "packet of assorted miseries which we call a Ship."

Terraine presents a good account of the development of antisubmarine and escort tactics. Early in the war, the Royal Navy wished to focus its efforts on hunting submarines—forming "cavalry divisions on the approaches," as Churchill said. This didn't work. The solitary submarine was an elusive thing. Hunting for such ships missed the point. "Sinking submarines (was) a bonus not a necessity;" the strategic objective was the safe delivery of war material to Britain, and the escort was best employed to that end. Later in the war as escorts were available, a two-tier system was set up. The primary escort stayed with the convoy while the newly formed support group could be detached to pursue any unfortunate submarine to the death. Both safe cargo arrivals and submarine casualties increased accordingly.

Technology—weapons and counter-weapons—played a major and continuous role throughout the U-boat wars. Sonar, radar, HF/DF, Ultra, MAD, depth charges, torpedoes, hedgehogs, and mines are well-known weapons to students of naval affairs. None is neglected in Terraine's work. His contribution shows not only why the weapons were developed but also how they were used and what were their effects on tactics. While each weapon was vital in its own right, the aggregate did the job.

Aircraft were crucial and their value was not fully recognized early in the war. The Royal Air Force's Coastal Command suffered for want of aircraft and crews in competition with Bomber Command. Yet, when the war ended, aircraft had accounted for as many submarine kills as had surface vessels. As aircraft came to dominate the Bay of Biscay, that stretch became as dangerous a place for submarines as the North Atlantic.

The struggle for the Atlantic was, as Churchill said, a war of "measureless peril expressed in charts, curves, and statistics." It was a race to build merchant ships and escorts faster than they were lost and faster than the Germans could build submarines. Victory became apparent only indirectly, and gradually as the curve of submarine losses rose above that of the merchant ships. The crucial crossover came in May of 1943, the first month in which the number of submarines lost exceeded the number of merchant ships lost. Thereafter, the curves never favored Dönitz's forces. Each month following, more submarines were lost than ships. The decline was inexorable, though even in the last months of the war the Kriegsmarine mustered enough submarines to penetrate the Irish Sea and keep the convoys alert.

One might, as this reviewer did, cap Terraine's scholarship by reading again Monsarrat's *The Cruel Sea*, wherein he says at the end, "The beaten foe emerged. . . . They rose, dripping and silent, . . . above their handiwork, in hatred or in fear: sometimes snarling their continued rage, sometimes accepting thankfully a truce they had never offered to other ships, other sailors."

It was a hard campaign and Terraine's history is not without point for today. It is a very good book both for its historical analysis and for its value should maintenance of freedom of navigation become again a major task for the navy. As we have seen recently, many nations have the capability to disrupt the world's sea lanes.

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Showell, Jak P. Mallmann. *U-Boat Command and the Battle of the Atlantic.* Ontario, Canada: Vanwell Pub. Ltd., 1989. 224pp. $34.95

In this volume, Showell attempts to view the Battle of the Atlantic through the eyes of the German Submarine Command. Fortunately, he is more than qualified to do so, having penned several studies on the Kriegsmarine in the Second World War. In particular, this work is greatly enhanced by the fact that Karl Dönitz gave the author access to his voluminous wartime files. Despite this rare gesture, Showell came close to never completing the project. Fortunately, the counsel of wise friends prevailed, and this book was finally completed almost thirteen years after it had originally been abandoned.

As a consequence of his decision to portray the Battle of the Atlantic through German eyes, Showell has concentrated on German primary sources. These give the book a unique and extremely valuable historical perspective. However, these factors have not restrained him from making some rather striking observations about the nature and course of this very crucial campaign. He maintains that the U-boats were plagued with torpedo failures throughout the war, and not just in the early part of 1940. Furthermore, he states that the shortcomings of German torpedoes were only fully recognized and resolved after the end of the war. He also claims that the true turning point of the Battle of the Atlantic occurred during the first half of 1941, not 1943. Showell attributes a large proportion of U-boat successes in the early stages of the campaign to the Royal Navy's inadequate preparations. This is all the more surprising in that Britain should have been aware of Dönitz's potential strategy long before the outbreak of the war.

Other examples include the fruitless search within the U-boat command for leaks that were the suspected cause of the growing success of the Allied antisubmarine countermeasures. While Dönitz often suspected that the core of the problem might be with the German radio

coding machine, neither he nor his experts were ever able to confirm this. As a result, the size of his staff was cut to the bone in a vain attempt to eliminate the possibility of intelligence leaks. Consequently, the "Ultra secret" was never really in danger of being uncovered. Also, the British development of centimetric radar and the high-frequency direction finder was never seriously suspected until it was far too late for effective countermeasures to be devised.

Showell also argues that the U-Boats of World War II were only technically improved versions of their First World War predecessors. He maintains that the type XXI U-boat was technologically feasible long before the outbreak of the war. Germany's total failure to invest in long-term U-boat research and development was the prime cause of her defeat in the Battle of the Atlantic.

In addition, the author also gives us several brief insights into Dönitz's character and personality. Perhaps the most important is his argument that Dönitz never believed, even before the outbreak of war, that Germany could defeat England in a major conflict. If his thesis is accepted, then we are indeed in desperate need of an authoritative biography of Dönitz, because those that are currently available are clearly in need of major revisions.

Given its many radical observations and conclusions, it is unfortunate that the book is not footnoted. It is, for the most part, remarkably error-free, convincingly argued, well written and researched. (One rare example of an error which can be found in this book is the author's misidentification of the German heavy cruiser *Admiral Hipper* as a battle-cruiser on page 123.)

This book is profusely illustrated with both maps and photographs. The latter have been carefully selected, and are well captioned. The former provide information on U-boat operations at various key stages of their attempt to sever England's trans-Atlantic lifeline. For some reason, Showell believed that the majority of his readers would not read the entire book. Consequently, he often repeats the main points of his arguments in different chapters. However, despite this, the book should be read thoroughly. It is an important contribution to our understanding of the Battle of the Atlantic, and is clearly one of the most important works that has been published on the U-boat war in several years. It is wholeheartedly recommended.

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van Tuyll, Hubert P. *Feeding the Bear: American Aid to the Soviet Union, 1941-1945.* Westport, Conn.: Greenwood Press, 1989. 200pp. $37.95

Mr. van Tuyll addresses himself to a single issue: how important was the American lend-lease program to Soviet victory in the Second World War? He sensibly recognizes the difficulties

in attempting to answer such a question. Contemporary documents and accounts are suspect, for the Allies had a stake in overstating—and the Russians, by contrast, in understating—the significance of foreign contribution to the war effort. The Russians did so for patriotic reasons, and to pressure the Allies to make even greater contributions. American politicians and military men, on the other hand, needed to show that the vast public sums expended to benefit the Soviet allies in fact made a difference.

The historian of the lend-lease program faces further difficulties. The Soviets were so secretive during the war that they did not allow their American allies to make an objective evaluation of the performance of the weapons they were contributing. Van Tuyll cites an amusing example: The Americans, reasonably enough, wanted maps showing the location of Soviet airfields. The Russians responded by saying that (a) there were so many airfields that planes could easily find them without maps; (b) the country was flat, so any field could be used; and (c) there *were* no maps. Therefore, the donors even at the time could only guess how much their material aid had mattered. Undoubtedly Russian preoccupation with secrecy hurt their ability to wage war. Until recently, Soviet historians did everything within their power to minimize the significance of American aid. But perhaps now the situation will change. Not only will Soviet historians approach the issue more objectively, but the authorities may open Soviet archives to foreign researchers. Van Tuyll did his work before the recent era of openness.

Possibly the greatest difficulty that the historian faces in attempting to answer van Tuyll's question is conceptual: how can one separate one factor out of many? How can one compare the role of American machinery, food, and clothing with Soviet heroism, determination, and military skill? In fact the author is posing a counterfactual question: how would the Red Army have done without American help?

Given these difficulties, Mr. van Tuyll has done an excellent job. His research is impressive (his notes are almost as long as the text itself). He obviously has a good understanding of military issues and the ability to explain both how American equipment was used and how it affected performance of the soldiers. But most importantly, the author is a man with common sense who is able to put competing claims in context. He is determined not to overemphasize the role of lend-lease, not to give too much credit to the Americans as if somehow to counterbalance the claim of Soviet historians who have obviously given too little credit.

His conclusions are judicious: the Red Army would have withstood the German assault alone. After all, at the time of the greatest danger, in 1941, foreign help was not yet available. On the other hand, it seems likely that the greater successes, the almost uninterrupted series of Red Army offensives

that began in 1943, could not have been carried out as successfully without American help. Van Tuyll agrees with all other observers that trucks, which increased the mobility of the army and were something that the Russians were not in a position to produce in quantity, were the most significant form of help. In addition, communication equipment, radar, and other items of technology made a difference in the performance of the Soviet troops. He rejects the argument of those who say that lend-lease, by speeding up Russian advance, enabled the Soviet Union to occupy Eastern Europe. He rightly points out that if the war had lasted longer more Allied soldiers would have died and that therefore American aid to the Soviet Union during World War II was a good investment: it saved American lives.

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Offer, Avner. *The First World War: An Agrarian Interpretation.* Oxford: Clarendon Press, 1989. 449pp.

Howard, Michael. *The Continental Commitment: The Dilemma of British Defence Policy in the Era of the Two World Wars.* London: Atlantic Highlands, N.J.: Ashfield Press, 1989. (originally published London: Smith, 1972). 176pp.

British strategy can choose either a continental commitment or an Atlantic orientation. The former has meant that the country seeks to exert direct influence on the power of Europe. This was the course chosen by Castlereagh, by those who supported France after war began in 1914, and by those who after 1945 saw Britain's frontier to be on the Rhine. Generally, today, it is the choice of those who see Britain's future in Brussels. In military terms, the continental commitment has meant soldiers on European soil. The Atlantic orientation has meant looking outward over the sea, a maritime and imperial strategy which recognizes the islands' dependence for food and materials on the far-flung Commonwealth and the Western Hemisphere. In military terms, Atlantic orientation has meant protecting the sea lanes and establishing naval blockades. The adherent of one orientation chooses land power; the other, sea power.

The blockade in the First World War was based on a sea power alliance. This Avner Offer traces to a specialization of world food production that in the nineteenth century bound the granaries and grazing lands of the United States, Canada, Australia, and New Zealand to the conscious British decision to import food and to let its own agriculture run down. The British overcame this vulnerability in time of war by stressing the ties of empire. There were two strategic consequences of their Atlantic orientation. One was the necessity to make sure the alliance which delivered the food stayed firm. Offer argues that the notion of a common front against a Yellow Peril in the

Pacific countries had cemented the tie (he does not include in his discussion India, a large prewar grain exporter, or Russia, the Danubian lands, or the Argentine). The second consequence was the assumption that blockade would be a decisive weapon.

Offer knows that personality counts in strategy formation. The blockade strategy was put forward by the fire-eating Admiral Fisher, the courtier Lord Esher, and the agenda-setter Maurice Hankey. They encouraged naval officers in the thinking that the German conflict was a commercial struggle that had to be decided by war. They won the endorsement of influential Dominion ministers. The blockade doctrine, in this interpretation, was the product of a broad sea power effort in Edwardian England to use the Dominions to avoid a mass commitment of British manpower. The question is: did it make strategic sense?

The army and the Foreign Office did not think so. For them, the balance of power in Europe was the key to home defense, and that meant soldiers in France. Michael Howard, who takes the story up to the Second World War, describes the debate over how to configure British defense with remarkable clarity. He wrote his concise survey in 1971, as he admits in a new preface, as an argument "with that older generation of naval and military historians, from Julian Corbett to Herbert Richmond and Liddell Hart, who had urged the need for a maritime strategy, a specific 'British Way in Warfare' based on the avoidance of any Continental Commitment." That position, said the pro-Nato author, no longer pertained.

Two questions remain. First, was the British choice really either-or? The answer is: obviously not. British strategy in both wars involved both restoring a balance of power and maintaining a maritime-imperial-seaborne raw material connection. Germany had to be defeated on land. British participation demanded command of the seas. Overseas allies were necessary for food, and for support. The empire fell away as a consequence of British absorption in the vital continental conflicts, not a loss of sea control.

The second question is: what was the importance of the blockade in the first war? Here Offer gives an original interpretation. The influence of the blockade and of the maritime alliance became obvious during the armistice period. At that time it gave the overseas powers who controlled the international food economy a strong hand in shaping the peace, for they were able to sustain the British while they deprived the Germans. Germany was not starved into defeat, Offer makes clear, although the blockade did have political consequences. It became part of German domestic politics in two ways. It imposed a shortage of food during the winter of 1918-1919 which strengthened the hands of the forces of reaction against the forces of revolution. At the same time the blockade, which continued after the shooting had stopped, allowed the Germans to reject the legitimacy of

the allied demands even as it forced the government to bend to the Allies' will. Because a blockade acts against the civilian populace, its maintenance after the Armistice transformed a "just war" against the imperial government into an "unjust" war against civilians, and thereby helped the Germans transfer the target of their negative verdict on the peace treaty from Berlin to Versailles.

These books show a maritime strategy in all its complexity. Offer shows how the British sought a strategy for home security based on a seaborne agricultural alliance, and Howard shows why that was not enough. The two books are fruitful to read together.

GEORGE BAER
Naval War College

Paschall, Rod. *The Defeat of Imperial Germany: 1917-1918*. Chapel Hill: Algonquin Books of Chapel Hill, 1989. 247pp. $22.95

This excellent book comprises a collection of battle histories that illustrate various attempts to restore maneuver to the Western front during 1917-1918. The engagements addressed include French general Nivelle's failed offensive of spring 1917; British field-marshal Haig's tragic offensive in Flanders during the summer and fall of 1917; the Italian defeat known as Caporetto in October 1917; the tank battle at Gambrai in November 1917; the extended German offensive of March-July 1918; and the botched American Meuse-Argonne offensive of September-November 1918. Paschall manifests sympathy for the much maligned leaders of the time and maintains that the circumstances precluded a decision by maneuver. Victory came to Marshal Foch because he recognized the necessity of war by attrition.

Each battle study is of great interest, reflecting the author's ability to synthesize recent scholarship and his original observations. The discussion of tactics is the soul of the book. This emphasis allows Paschall to dispel a goodly amount of the mythology that surrounds 1917-1918, especially in America. Paschall is both a skilled professional soldier and a seasoned professional historian who seeks to enlighten a broad audience about a much neglected conflict. Knowledge of World War I is essential to an understanding of later events, including World War II.

The author's choice of battles is curious however, because none are catastrophic German defeats. The German Army repulsed both Nivelle and Haig in 1917. Italy suffered a sweeping defeat at Caporetto. The British assuredly achieved a startling advance at Cambrai, but Ludendorff soon counterattacked successfully and erased the initial territorial loss. From March to July 1918, Ludendorff conducted five offensives, some of them remarkably successful. He suffered defeat only in the sense that he did not accomplish his main goal, which was to achieve a decision before the

American reinforcement allowed the Allies to turn the tide. As for the American Meuse-Argonne campaign, it in fact resulted in a check to the American Expeditionary Forces until early in November. Paschall is gentle, but explicit in his condemnation of Pershing's tactical ideas which stressed aimed rifle fire.

To this reviewer, the surprise in the book is that it neglects two critical battles of 1918 that were undeniable German defeats of the first magnitude: the battle of Amiens on 8 August (a British victory that reflected their successful adaptation to current conditions and which forced the German government to recognize that it could no longer hope for victory), and the British attack on the fortifications known as the Hindenburg Line on 27-29 September, which produced two clean penetrations. After the latter attack Ludendorff insisted on an immediate armistice, starting a process that soon led to a new German government and bilateral negotiations with President Wilson that culminated in the armistice of 11 November.

Germany lost because it lacked the resources required to accomplish its maximal war aims, and because the Allies ultimately were able to make the best possible use of their superiority in manpower and material. Marshal Foch was the greatest of the captains of World War I because he discerned the means by which to force a decision through attrition. It is required reading for students of the Great War, but all readers should benefit from this book.

DAVID F. TRASK
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Cecil, Lamar. *Wilhelm II: Prince and Emperor, 1859-1900.* Chapel Hill: Univ. of North Carolina Press, 1989. 463pp. $39.95

Lamar Cecil of Washington and Lee University is best known for his books *Albert Ballin* and *The German Diplomatic Service.* This volume is the first half of what promises to be a lively biography of the last of the Hohenzollerns. Cecil has combined exhaustive archival research from Austria, West Germany, and England with extensive study of the memoir literature of the Second Reich to produce a highly readable account of Wilhelm II's career to 1900. Cecil's work in The Royal Archives, Windsor Castle, in particular has produced fresh material on the Kaiser and his half-German relatives. Unfortunately, the author was denied access to the extensive holdings in the former East Germany pertaining to Prussia and its ruling house.

At the personal level, Cecil argues that Wilhelm in his mid-twenties was already the man he would be as Kaiser: "rankly opinionated, blind to his errors, and utterly self-centered." Fortunately, we are spared the sensationalist (and probably untrue) assertations of scholars such as J. Rohl, I. Hull, and N. Sombart, among others, concerning Wilhelm's supposed "homoerotic"

tendencies. Cecil is too good a historian to fall prey to circumstantial evidence such as court gossip and innuendo.

For the serious student of German military and naval history, however, Cecil's biography is rather disappointing. To be sure, the author recounts in rich detail Wilhelm's well-known foibles with regard to uniforms and maneuvers, and his cherished personal command authority, but the deeper issues of military reform are glossed over. This is especially the case with regard to the critical issue of the role of the military in a modern, industrial state. In 1890, War Minister Verdy du Vernois asked if the Prussian Army was to remain a "corps royal" or whether the concept of the "nation in arms" (*Volk in Waffen*) was to be put into practice. While the issue bedeviled successive war ministers until 1914, Cecil offers no analysis.

Likewise, the Kaiser's love of all things nautical in general and of A.T. Mahan's work in particular is well documented—as is Wilhelm's testy (and at times, tempestuous) relationship with that "Bismarckian character," Alfred von Tirpitz. Cecil rightly credits Wilhelm's "personal regiment" with creating the necessary support for "navalism," while making the concomitant case that Tirpitz was the real architect of the High Sea Fleet. Yet, one misses the central argument: was the fleet built primarily as a tool of empire (*Weltpolitik*), or as an integrating factor of social imperialism? Study of its role in the origins of both the Anglo-German naval race and the First World War will have to await Cecil's second volume.

HOLGER H. HERWIG
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Gamba-Stonehouse, Virginia. *Strategy in the Southern Oceans, A South American View.* New York: St. Martin's Press, 1989. 155pp.

Strategy in the Southern Oceans, A South American View is about geopolitics and includes most of the major themes that are current in the writings on this topic in Argentina, Brazil, Chile and Peru. These themes are the Falklands/Malvinas war and its aftermath, the Beagle Channel dispute, the strategic value of the South Atlantic, the still-festering sequels of the War of the Pacific (1879-1881) and current territorial claims in Antarctica.

Gamba-Stonehouse concentrates on two case studies. Her first deals with the potential conflict arising today from Bolivia's ambition to obtain part of the coast of northern Chile in order to build a port for its own use. She reviews the border changes of Peru, Bolivia and Chile from the colonial period through the War of the Pacific, the war itself, and its settlement by treaties. She describes Bolivia's many efforts to revise the peace treaty signed with Chile, and has some things to say about the global implications of this issue.

Her second case centers on the conditions in the South Atlantic after

the Falklands-Malvinas war. She makes interesting analysis of the decision process that prompted the Argentinean leaders to invade the islands in 1982; her discussion suggests the influence of geopolitical thinkers in that decision. She also discusses its connection with the Beagle Channel dispute between Chile and Argentina that was being mediated by the Pope at the time. The case illustrates the changing attitudes of some geopolitical writers about the best way to achieve a nation's potential, for they are shifting from nationalistic and confrontational approaches to strategies of cooperation. Gamba-Stonehouse develops this theme by stressing the current level of collaboration between Argentina and Brazil in various fields, such as nuclear power research, joint ventures in military hardware, and joint development of a Western South Atlantic strategy against the common perceived threat—made plain by the British militarization of the Falklands-Malvinas islands.

The author's sources are mainly Argentinean and Peruvian for the first case study and Argentinean for the second. She uses American, British, Brazilian and Chilean materials sparsely. The authority of the sources she does use is, in some cases, questionable. The lack of a balanced view is evident in both case studies analyzed. Both Chilean and British points of view are omitted or heavily burdened with conjectures.

Anybody writing today about the future of world politics stands a good chance of erring. *Strategy in the Southern Oceans, A South American View* does not escape this hazard. Some basic premises underpinning the arguments of the book are changing rapidly. One is the desire of the countries of the southern cone, especially Argentina and Brazil, to remove this part of the world from the East-West confrontation. It turns out that today the East-West confrontation is dissolving. The other is the isolation of both Great Britain and Chile—the former for its policies during and after the war of 1982, the latter for its military regime. Again events have changed dramatically. Argentina and Great Britain have established diplomatic relations and are cooperating to solve their differences. In Chile a democratically elected government is now in power, thus ending its purported isolation. And finally the revolutionary conditions in Central America that threatened the future use of the Panama Canal, increasing the strategic value of the Drake passage, have also changed. The recent events in Panama and Nicaragua have stabilized this region.

The book points out correctly some of the differences between the countries in this region that belie the common perception in the U.S. that Latin America constitutes a homogenous group of countries with both a common past and united aims for the future. Conflicts such as those Gamba-Stonehouse describes are real and have in some instances developed into full-grown wars. It is unfortunate that in these controversies, geopolitical

thinkers have helped generate an atmosphere in which intentions have often replaced capabilities, in which potential riches have been counted before being discovered, and perceptions have overshadowed realities, thus breeding suspicion and animosity between bordering countries. This book does not reverse that condition.

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Karnow, Stanley. *In Our Image: America's Empire in the Philippines.* New York: Random House, 1989. 494pp. $24.95

Given the political and economic uncertainty besetting Manila and the current state of U.S.-Philippine relations, this book could not be more timely. If one has a limited amount of time in which to become familiar with the long and complex history shared by the two countries, this may well be the best single volume available.

Stanley Karnow will be known to most *Review* readers for his earlier prodigious work on the Vietnam war. Like that book, *In Our Image* is a skillful and eminently readable blend of history, journalism, and occasional gossip. Also like his previous work, this book has a companion video history which was aired on the Public Broadcasting System. While they are not marketed as a package, the video series is a rich pictorial retrospective and a must-see for those interested in Philippine affairs.

Stanley Karnow addresses his book to three questions: what propelled the Americans into the Philippines; what they did there; and what has been the legacy of their role. In writing the book he has faithfully answered those questions, and the reader will be struck throughout that this is not so much Philippine history as it is American history. Mr. Karnow's journalistic roots (*Time*, *Life*, *The Washington Post* . . .) enable him to bring historical figures to life and thus imbue dusty history with freshness and vitality.

Much of the book is directed towards explaining the policies, ambitions, and emotions that led to the Philippines becoming an American colony and to the subsequent "special relationship" that has linked the two countries for nearly a century. In examining these issues the author is careful to become neither apologist nor revisionist, but rather to balance both countries' faults and virtues fairly and conscientiously. Students of more recent foreign policy decisions will certainly recognize the strategy and policy mismatches that occurred during the so-called Philippine Insurrection of 1898. The notable absence of leadership on the part of President McKinley is brought into sharp focus, as are the later actions (and inactions) of Douglas MacArthur.

It must be said that Stanley Karnow has definite personal views on certain issues and personalities—MacArthur being only one of many. But once recognized, this personalizing becomes one of the book's strongest

virtues. The author weaves together so many anecdotes, bits of gossip, and little-known facts that the reader cannot help but form a complete picture of the people and the times in which they lived.

In Our Image becomes even more fascinating toward the end, when the last twenty-five years of shared history become more familiar. Intimately acquainted with the Marcos' "conjugal dictatorship" and with virtually all the key players in the opposition movement which led to their ouster in 1986, Karnow provides fresh insights into the complex mixture of politics, corruption, greed, ambition, and idealism which culminated in Cory Aquino's victory. The chapter outlining the transition from Marcos to Aquino and the U.S. policy decisions relating to it are vivid and compelling.

The book touches briefly on the current insurgency, but, regretfully, was completed prior to subsequent coup attempts and the Philippines' present political malaise. Nonetheless, it provides such a measured and complete foundation that the reader cannot help but gain a firm grasp of the challenges and imponderables which now face Mrs. Aquino. Stanley Karnow has virtually created a genre of journalistic historicism; *In Our Image* is excellent from start to finish. Potential readers should not be put off by its nearly five hundred pages; it is a journey that is both enjoyable and worthwhile.

D.A. JAGOE
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Naval War College

Allen, Robert L. *The Port Chicago Mutiny*. New York: Warner Books Inc., 1989. 192pp.

The 1944 ammunition explosion at Port Chicago, California, is obscure today. It produced the most casualties of any U.S. domestic industrial accident connected with World War II. Yet Robert Allen's excellent book should help diminish that obscurity, for he discusses how the ramifications extended far beyond the actual incident.

On the night of 17 July 1944, two merchant ships at the Port Chicago pier exploded while crews of black navy enlisted men were loading ammunition for transportation to the war zone: the *E. A. Bryan*, a Liberty ship, and the *Quinalt Victory*, a brand-new Victory type. The accident killed 320 men, injured 390 others, and damaged or destroyed much of the ammunition depot. The Victory ship was broken up and hurled some five hundred feet from her berth while the Liberty ship was essentially atomized.

Perhaps the incident is so little known because naval history has traditionally concentrated on the strategic and operational aspects of wars. Logistics is far behind as a subject for study, but it is well to remember that Task Force 58, for example, would have been toothless in the Central Pacific campaign without the bombs, rockets, projectiles, powder, and machine gun bullets loaded aboard hundreds of merchant ships at Port Chicago, about forty miles east of San Francisco.

Dr. Allen has chosen to concentrate on the men and on the disciplinary

consequences when stevedore crews expressed their unwillingness to return to the dangerous work after the explosion. The author, an African-American scholar, has focused on the fact that 202 of the men killed were black. Indeed, the stevedore crews were all black, reflecting a pattern found throughout the still-segregated U.S. Navy of World War II. Even though black enlisted men were permitted in the general service ratings and were not limited to food service jobs as they had been previously, they still had precious little opportunity to get into combatant billets. Instead, they were mostly used as laborers, both in the United States and overseas.

In the wake of the incident, the ship-loaders were willing to undertake any type of duty other than ammunition loading, especially in view of the unsafe working conditions they had experienced in the past. (The officers in charge, who were white, had bet each other which crews could load most quickly, for example. Loaders had rushed the jobs to comply with the directions of these officers.)

The Commandant of the Twelfth Naval District, Rear Admiral Carleton Wright, threatened the recalcitrant enlisted men with death, and all but fifty reluctantly returned to work. The remaining fifty were then court-martialed for mutiny because of their collective insubordination in wartime.

The defense legal team argued that the refusals were individual acts, not conspiracy, and in any event were analogous to a sit-down strike that civilian stevedores might mount—far from active attempts to seize authority, which traditionally constitutes mutiny. Predictably, the fifty men were found guilty and sentenced to fifteen years apiece in prison. Eventually, because of the end of the war and pressure from a variety of groups such as the NAACP, the men were released from prison after only about a year.

Dr. Allen has done a superb job with this study, in part because of his near-compulsion to ferret out the story and commit it to paper. His research is compiled from both documentary sources and oral-history interviews with a number of the original ammunition-handlers.

Especially valuable to Allen's research was the cooperation he received from Joseph Small—one of the leaders of the group charged with mutiny—who describes the atmosphere in the depot and in the nearby town during the period before the blast, and also the dissatisfaction with the segregated system and with the psychological devices used by the men to keep working in such a situation. The explosion took away those compensating mechanisms.

In today's navy, it is likely that teams of psychiatrists would flock to help the men deal with their trauma; in 1944, however, they were accused of cowardice and then disciplined. Under the system then in effect a man either did his duty or he was punished; there was no middle ground, no mitigating circumstances. Thus the book offers a window not only into

the prevailing racial atmosphere in the navy of that era but also into its methods of dealing with people in a wartime environment.

As a consequence of the public attention engendered by the Port Chicago incident, black navy men were dispersed more widely than they had been and the service took steps toward reducing discrimination before President Harry Truman's watershed executive order that integrated the armed services in 1948.

Throughout the text, Dr. Allen portrays the viewpoint of the black ammunition-handlers. Given the progress that the navy has made in the last forty-five years regarding racial awareness, his description is valuable in pointing out how much needed to be changed. It is not easy for a group of men to refuse to do their duty in wartime, but this book helps us to understand why these men did so and to sympathize with their plight.

PAUL STILLWELL
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Johnson, Loch K. *A Season of Inquiry: Congress and Intelligence.* Chicago: Dorsey Press, 1988. 317pp.

This is a new but apparently unchanged edition of a book originally published in 1985 about the 1975 Senate inquiry into alleged "abuses" by the U.S. intelligence community. According to the author, it was republished in the wake of the Iran-Contra scandal which had indicated that such abuses have continued despite the establishment of a formal congressional oversight structure that resulted from earlier congressional investigations. The author was a staff assistant of the Senate Select Committee on Intelligence Activities, which became known as the "Church Committee" because it was chaired by Senator Frank Church (D. Idaho).

While the substance of the intelligence abuses uncovered by the investigation—assassination attempts, illegal telephone taps, etc.—are interesting in their own right, this book is really about the Church Committee: the senators, the staffers, the politics, and the problems involved when one branch of the government attempts to investigate another. Johnson details the inner workings of the Church Committee and provides a fascinating study of congressional activities—a "primer on how the Senate works," as a reviewer of the first edition stated. The author provides an insider's viewpoint of how that political power is manifested in Washington, along with the personal ambitions, jealousies, and priorities of our congressional leaders at work. It is well worth reading.

E.D. SMITH, JR.
Naval War College

Smith, Stuart W. *Douglas Southall Freeman on Leadership.* Newport, R.I.: Naval War College Press. 1990. 262pp.

Shelby Foote is probably the best known Civil War historian alive

today, at least since the extraordinary PBS documentary of last fall. But in the middle years of this century the history of the late Confederacy was dominated in the popular mind by Douglas Southall Freeman. He was the longtime editor of the *Richmond News Leader*, Pulitzer Prize winning biographer of Robert E. Lee and George Washington, and author of *Lee's Lieutenants*.

Freeman was no journalistic historian. He was a 1908 PhD. from Johns Hopkins University, then considered by many to be the cradle of "professional" historical scholarship in the United States. The son of a veteran of the Army of Northern Virginia, Freeman knew personally many veterans of that army and was dedicated to preserving and recording its history. Indeed, the most moving speech in this collection is one written for his father when the elder Freeman served as commander in chief of the United Confederate Veterans.

Freeman belonged to the "great man" school of historical interpretation, and to an age when leadership was considered more a part of the discipline of ethics than of behavior science. Such views may not be consistent with contemporary academic fads, but events of the past year or two have shown that they merit the consideration of those who would understand the world and the motivation of people. One need only examine the changes in Central Europe, or contrast the command of Operation Desert Storm with that in Vietnam, to see clearly that those who lead do matter and that ethical values, character, and integrity are not entirely passé.

These essays are a collection of fourteen speeches delivered by Freeman on leadership. Twelve of these were presented at various institutes of higher professional military education (notably the Army War College, Naval War College, and Armed Forces Staff College) during the time that Freeman was writing his great biographies. They address attributes of leadership and character and use Lincoln, Lee, and Washington as exemplars. While there is some repetition in the conclusions drawn, each speech is unique because Freeman felt obliged to change his presentation each year rather than bore those who had previously heard him address the same topics. Aside from the historical lessons taught and the ethical principles defended, these speeches tell us a great deal about that extraordinary man of character who was the speaker himself.

This volume, edited by Lieutenant Commander Stuart Smith, the former managing editor of the *Naval War College Review*, provides an excellent addition to the massive Freeman corpus and is a welcome addition to the available works on military leadership. It also reminds the historian that no biography exists of that extraordinary southern scholar.

Freeman's text is complemented by thorough explanatory footnotes, along with splendid introductory essays by the editor and Admiral James B. Stockdale. Included are a chronology of the Army of Northern Virginia,

and an appendix containing Lincoln's Second Inaugural Address, Lee's Farewell to the Army of Northern Virginia, and Washington's resignation of his commission.

This is a book which should be read by all who follow the profession of arms.

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Peters, Ralph. *Red Army: A Novel of Tomorrow's War.* New York: Pocket Books, 1989. 403pp. $5.95

It is difficult to find reasons to regret the liberalization of Eastern Europe and the coming withdrawal of Soviet forces from the Warsaw Pact countries. One reason stems from the fact that with every day, the novel *Red Army* moves further from plausible fiction into fantasy. Subtitled "A Novel of Tomorrow's War," *Red Army* provides a U.S. Army intelligence officer's best estimate of the Soviet view of the next war in Europe. Peters' effort succeeds admirably; the reader is exposed to the thinking of a large number of Soviets: each with his unique view of the battlefield.

For those addicted to the genre of alternative or potential military scenarios, this work is one of the best of its kind. It skillfully blends the characters and smoothly flows from one to another—from the Soviet front commander to a terrified private—while providing a gripping account of the Soviet assault on West Germany. One does not find a story based on exaggerated accounts of technological wizardry or other improbable gimmickry but rather a reliable description of the equipment that one may find in Europe and an introduction to the type of SNAFUs that one would expect (as Clausewitz would put it, the "fog of war"). The book has a plausible set of events leading to a believable, if not very satisfying, conclusion.

Because Peters sensibly restricted himself to areas he specialized in, the scope of the book is limited. While this is mainly an advantage (the writing is uniformly excellent), the potential audience of *Red Army* is reduced by the limitations Peters placed on his own efforts. One will not find in *Red Army* the political machinations that give works such as *Red Phoenix* their flavor, nor any consideration of the strategic dimension of the war. Nor, importantly for these pages, is there any consideration of the naval aspect of a Nato-Warsaw Pact war. Peters' focus is entirely on the actions of one Soviet front and of its soldiers.

In addition to the diminishing credibility, due to current events, of Peters' scenario, the tensions between Soviet nationalities are clearly understated in light of present unrest in the Soviet Republics. Despite these qualifications, if you are interested in an incisive account of the increasingly unlikely ground war in Western Europe, then *Red Army* is likely to be as gripping for you as it was for me.

ADAM B. SIEGEL
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Terzibaschitsch, S. *Aircraft Carriers of the U.S. Navy*. Annapolis, Md.: Naval Institute Press, 1989. 344pp.

Probably no one has more lovingly detailed the appearance and technical data of each U.S. Navy aircraft carrier than Stefan Terzibaschitsch. Readers who do not own the 1980 first edition should be delighted that the Naval Institute is printing this updated and revised photographic and textual history.

Terzibaschitsch divides his coverage into pre-1950 and post-1950 surveys. In both, he presents technical information applicable to carriers generally and to specific classes. He then devotes several pages to each ship, with large photographs, capsule reports on service history and electronics configuration, and numerous drawings and deck plans by Eberhard Kaiser and Klaus-Dieter Schack. Forty pages of appendices document, *inter alia*, construction histories, technical data, and air wing compositions.

Although three pages are given to the two Great Lakes training carriers, escort carriers (CVEs) are not included (Terzibaschitsch covers these in a separate volume, also from the Naval Institute Press). The most noticeable change from the first edition is an additional twenty-two pages to update coverage of operational ships and include the *Carl Vinson* and the *Theodore Roosevelt* (CVNs 70 and 71).

Earlier errors or now-outdated assertions have been corrected on at least three dozen pages. Some remain for the eagle-eyed: Mark Morgan zeroes in on squadron and aircraft goofs in *The Hook* (Winter 1989).

This is a wonderful book for those who love carriers, from the very old ones to the very new.

TOM GRASSEY
Naval Postgraduate School

Friedman, Norman. *British Carrier Aviation: The Evolution of the Ships and their Aircraft*. Annapolis, Md.: Naval Institute Press, 1989. 384pp. $44.95

It has been stated many times since the early days of World War II that the Royal Navy's loss of its naval air arm to the Royal Air Force in 1918—an organizational embodiment of the "indivisibility of airpower" concept—led to significant and avoidable operational and materiel disappointments during World War II. These wartime shortcomings in turn have been said to demonstrate the need for naval authority to command the entirety of its air element: aircraft, ships, and all their personnel, and also the design, procurement, and training thereof. On the other hand, the Royal Navy—which recovered full authority over embarked aviation on 24 May 1939—has been credited with inventing, following World War II, several key aircraft carrier design features that were later adopted by the U.S. Navy: the so-called "angled" flight deck (the overhanging deck extension making possible flight operations without risk of crashes into

aircraft parked further forward); the steam-powered aircraft catapult; and deck-edge "mirror" aircraft landing aids.

Norman Friedman's new study of British carrier aviation relies on a great deal of new archival research, primarily in the U.K. but also in the U.S., to advance our understanding of these and other items of accepted wisdom important to the history of seapower. Although published individual operational histories are available for many British aircraft carriers (e.g., the *Ark Royal*, *Illustrious*, *Victorious*, *Glorious*, *Bulwark*, *Vindex*, etc.), and a few overall naval aviation histories exist, until now there has been no comprehensive archivally-based study of British aircraft carrier design and characteristics to parallel the standard reference works produced over the last twenty years on British battleships (by Oscar Parkes, John Roberts with Alan Raven, and R.A. Burt); or World War II cruisers (Roberts and Raven); and on all destroyers (Edgar J. March). Note must be made, however, of one existing solid study of policy, Geoffrey Till's *Air Power and the Royal Navy 1914-1945: A Historical Survey* (Jane's Publishing Co., 1979), reviewed in the *Naval War College Review* for March-April 1981, pp. 124-125. *British Carrier Aviation*, however, gives a more detailed description of the technical aspects of carrier design and characteristics than does the earlier work.

Dr. Friedman's book provides a better appreciation of the military operational effectiveness of the carrier force than do many books on aircraft carriers, by combined treatment of both the ships and their aircraft. British naval aircraft have been described previously in considerable detail in several aviation histories, but with little regard for the design constraints and operational aspects of shipboard operation.

British Carrier Aviation adopts a format similar to that used in Dr. Friedman's "Illustrated Design History" series on U.S. Navy warships published by the Naval Institute Press. There are extensive illustrations throughout, including numerous scale line drawings from official plans produced for this book. About twenty-five ships are illustrated with particularly valuable sets of drawings (inboard profiles and deck plans) with keyed identifications of various internal spaces. Aircraft are generally illustrated with photographs rather than drawings. The book's unusually large physical size—roughly 11 inches square—has permitted the publisher to avoid burying most of each illustration in the spine of the book. The photographs are excellent.

There are a few shortcomings, none major. There are more typographical errors than desirable (e.g., the steam catapult is said to have been conceived in "1963" when probably "1936" was meant). This reviewer, at least, remains somewhat confused by the internal organization of the Admiralty, a point relevant to the design debates; some organizational line diagrams for a couple of representative years might have been worthwhile.

(Some useful examples appeared in Eric Grove's *Vanguard to Trident: British Naval Policy since World War II*, Naval Institute Press, 1987.) The ship line drawings are in outline, rather than constructional, so that fine detail of structure such as scantling strength and shell expansion is omitted. Finally, the effects of budgetary pressures on British carrier aviation are mentioned often but are not explained as well as in another excellent new book, Jon Sumida's *In Defence of Naval Supremacy: Finance, Technology, and British Naval Policy 1889-1914* (Unwin Hyman, 1989).

There are several particularly fascinating aspects of *British Carrier Aviation*. Somewhat surprisingly, full attention is given to the many converted merchantmen of World War I. These carried a handful of airplanes in direct support of the battle fleet prior to the advent of the now classic "flattop" fleet carriers in the 1920s. That these early ships, and also the aircraft borne on the catapults of surface combatants, were quite significant between the wars, is an important finding. On more recent topics, much new information is provided on carrier designs during the early 1950s, and on the final big aircraft carrier design, the "CVA.01" of 1963-66, as well as on later V/STOL aircraft carriers.

To return to the initial point about the flaws of Royal Air Force management of naval aircraft and aviators between the wars, Dr. Friedman argues that certain hitherto overlooked aspects of the Royal Navy's aviation doctrine imposed constraints that were more far-reaching than any air force indifference toward meeting navy needs. Two examples were: (1) requiring tactical aircraft to be capable of flying from battleship and cruiser catapults as well as flight decks; and (2) storing all aircraft in carrier hangars with none on the flight deck. No special reason, either organizational or individual, is cited for the Royal Navy's history of inventiveness in carrier design.

British Carrier Aviation concludes that the Royal Navy's carrier aviation record has been outstanding "strategically, operationally, technologically." This book is an invaluable guide to understanding how such a successful naval force was created and, as such, it will give valuable historical insights to students of current naval aviation issues.

CHRISTOPHER C. WRIGHT
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King, Randolph W., ed. *Naval Engineering and American Sea Power* Baltimore, Md.: The Nautical & Aviation Pub. Co. of America, Inc., 1989. 487pp. $29.95

This work is a classic example of the saying "You can't tell a book by its cover." While its title and textbook-style appearance convey an intimidating impression of a highly technical volume suited only to the dedicated student of naval engineering, the truth is actually quite different. Written in an easy-to-understand style, this book will appeal to both the

technical and nontechnical reader. For the engineer, there is a wealth of information on ship construction techniques, weapons systems, and propulsion types, all of which played such a prominent role in the development of the U.S. Navy in this century. These subjects are thoroughly described, with the significant technological developments in each area comprehensively covered.

Yet at the same time, the discussion has clearly been oriented so as not to lose the non-engineer. The result is a book that bridges the gap between those knowledgeable of technical areas and those who are not. In the past, detailed information of this nature was frequently difficult to find outside of complex technical manuals or papers. By providing a "user-friendly" way to understand these subjects, this volume serves an important function. A vast amount of information is combined in a centralized and very readable source. An understanding of technical matters is of value to a student of naval history since in many cases these technological developments were as influential on the navy as national policy.

An equally impressive strength is the wide range and diversity of subjects covered. This work discusses not only the obvious items but also developments in electronic warfare, communications intelligence, operations research, sonar, computers, firefighting technologies, radar, and navigational systems, to name just a few. The scope is broad enough to take in even that perennial favorite amusement of sailors, the motion picture. During the 1930s the fleet wanted the new "talkies" but suitably rugged equipment was not available. Consequently, the Bureau of Engineering began to work with commercial producers to develop such equipment. The year-long effort is described in full with the eventual result that in 1932 the fleet was finally able to enjoy sound motion pictures on their new 4mm projectors.

In addition to addressing the "hardware" issues that influenced naval architecture and engineering, King links relevant world and national events to the development of the navy. For example, the impact of the Washington Naval Conference on ship design and naval force structure is analyzed. Later chapters examine the impact of new management approaches such as "design to cost" and "total package procurement" on ship construction and engineering. The discussion of new automated ship construction techniques in the later chapters is interesting. Operational events are discussed, but primarily with respect to how they influenced or validated naval developments.

The many experimental installations and "one time" trials that have occurred through the years provide ample material for the naval trivia buff. One of the more interesting is the story of the USS *Timmerman*. This unfortunate ship was designed to test the "exactness" of naval design and construction practices in the 1950s: it was built on the premise "that if an individual piece of equipment did not

fail, then that piece of equipment was not designed close enough." Success in this case was a matter of perspective. Its engineering officer was to observe, "the vessel has been a 99% success because 99% of the equipment has failed one way or another."

Naval Engineering and American Seapower was published under the auspices of the American Society of Naval Engineers, an authority in this area since its foundation in 1888. The society commissioned a different author (or authors) to write each of the book's twelve chapters. While this approach did combine a wide range of talent, it also resulted in a somewhat uneven treatment. This problem is acknowledged in the preface and is somewhat understandable in view of the magnitude of the task.

Although the main emphasis is on the twentieth century, the period covered extends throughout the navy's existence. The first two chapters cover the era prior to 1900. The remaining ten continue from 1900 to the present. Following the twelve chapters are three appendices, of which the most interesting is a chronology of naval engineering developments from the 14th century B.C. to 1988. While the primary focus throughout is on the navy, there is also material on the U.S. Coast Guard, the merchant marine, and the maritime industrial infrastructure.

Naval Engineering and American Seapower is a valuable addition to any library simply because of the wealth of information it contains. Combining its features with an easy writing style has resulted in a book that is a pleasure to use for either research or general reading. A final pleasant surprise for a book of this scope and depth is its reasonable price.

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